

REMARKS

Applicant would like to thank the Examiner for the careful consideration given the present application. The application has been carefully reviewed in light of the Office action, and claim 1 has been amended to more clearly and particularly describe the subject matter which applicant regards as the invention.

In confirmation of the telephone conversation with the Examiner on May 23, 2006, applicant hereby makes an election without traverse to prosecute Group I (claims 1-4). Accordingly, claims 5-6 are withdrawn from consideration in this amendment. New claims 7-14 have been added by the present amendment. Therefore, claims 1-4 and 7-14 are presented for examination.

Applicant further notes that form PTOL-326 indicates that only some of the certified copies for foreign priority have been received and that the Office action would list the copies that have not been received. However, no list of priority documents was located in the Office action. Accordingly, applicant requests that the Examiner provide the list of documents, if any, that must be submitted, so that applicant can correct any deficiencies.

Claims 1-3 are rejected under 35 USC 103(a) as being unpatentable over US 4,925,218 to Kunz in view of US 4,287,245 to Kikuchi. For the following reasons, the Examiner's rejections are traversed.

The present invention relates to a frame joint structure for a vehicle. The vehicle frame joint structure is comprised of a first frame member being U-shaped in cross section and having a first sidewall, a second sidewall, and a bottom wall and defining an opening, a second frame member, similar to the first frame member, and

being U-shaped in cross section and defining an opening, the second frame member having an end portion connected to at least one of the first and second sidewalls of the first frame member, a reinforcing member, with a first reinforcing member extending in the first frame member, and with a second reinforcing member extending from the second frame member and terminating at a joint with the first reinforcing member in the first frame. The vehicle frame joint structure further includes a plate member closing the openings of the first and second frame members so as to form a frame joint structure with closed cross sections, and a foamed resin filling spaces defined by the plate member, the first and second frame members, and the reinforcing member. The foamed resin, which results from foaming an unfoamed resin applied uniformly onto at least upper and lower surfaces of the reinforcing member, spaces the reinforcing member from the plate member and the first and second frame members.

Kunz is directed toward a double-walled pipeline system. In particular, Kunz teaches two half shells (22, 23) that are concentrically assembled as an outer layer to a pipe (10). After assembly, the two half shells (22, 23) are glued together to surround the pipe (10). This device prevents the escape of fluids if the pipe (10) develops a leak. More particularly, the two half shells define an outer pipe conduit, which serves to retain and transport fluids for later release. It is noted that Kunz is not related to a vehicle frame structure, and does not teach foamed resin in any way. It is initially noted, and will be discussed at length hereinafter, that filling the space between the two half shells and the pipe of Kunz would be contrary to use of the Kunz device as a "double-walled pipeline system" by preventing fluid flow within the two half shells.

In any event, Kunz fails to teach or suggest "a foamed resin filling spaces defined by the plate member, the first and second frame members and the reinforcing member, wherein the foamed resin results from foaming an unfoamed resin applied uniformly onto at least upper and lower surfaces of the reinforcing member", as required by claim 1.

Kikuchi relates to a heat insulator for pipes. Specifically, Kikuchi teaches that heat insulating units (A), which are formed in a semi-cylindrical shape, include a panel element (2) and an elastic sheet (3) that are covered by a thin metal plate (4). The "length and thickness of the heat insulator depend on the diameter and length of the pipe line to be protected and on the temperature of the fluid passed therethrough" (Col. 4, lines 33-36). By using this arrangement, the insulating unit (A) can avoid wrinkling when temperature changes are encountered.

More specifically, Kikuchi teaches that "[e]ach heat insulating unit is preferably semi-cylindrical in shape so that a pair of them (A-1 and A'-1, A'2 and A'-2,; etc.) is used as a minimum unit for the construction of the heat insulator of this invention". (Col. 4, lines 7-10). Pairs of heat insulating units are secured around the pipe so as to surround the pipe. Therefore, it is apparent that the foamed resin insulation of Kikuchi is made separate from the pipe and is thereafter secured to the pipe.

Initially, it is noted that even if the references were combined as proposed by the Examiner, the present invention, as defined in amended claim 1, would not result. Notably, neither of the references teach or suggest "a foamed resin filling spaces defined by the plate member, the first and second frame members and the reinforcing member, wherein the foamed resin results from foaming an unfoamed resin applied uniformly onto at least upper and lower surfaces of the reinforcing

member". Kunz completely lacks foamed insulation. Kikuchi teaches forming a foamed resin insulating units separate from the pipe (reinforcing member), and therefore cannot be interpreted as teaching an assembly wherein "the foamed resin results from foaming an unfoamed resin applied uniformly onto at least upper and lower surfaces of the reinforcing member", as required by claim 1. Accordingly, even if the references were combined, the invention defined in amended claim 1 could not result. Rather, applying the teachings of Kikuchi to the structure of Kunz would, at best, result in a foamed insulation being formed on the inner surfaces of the two half shells (frame members) prior to gluing of the two half shells to each other so as to surround the pipe (reinforcing member). It is submitted that this combination of Kunz and Kikuchi does not read on the invention defined in amended claim 1, and that claim 1 is therefore allowable over this proposed combination of references.

Further, while the purpose or intended use is not relevant in a rejection under 102(b), it is submitted that such use, and the problems addressed by the reference, is highly relevant in a 103(a) rejection, particularly when the rejection is based upon a combination of references. Notably, these intended uses and the problems addressed by the reference are relevant in determining 'why' one skilled in the art would be motivated to combine the references.

In the present case, the Examiner's attention is directed to the fact that each of the cited references is directed toward solving a different problem, and further that each of the references is directed toward structures and problems that are unrelated to the present invention. Kunz teaches a double walled pipeline system, which addresses the problems of a joint structure in such a double walled pipeline system,

such as accommodation of fittings and valves. Kunz is not related to a vehicle frame (present invention) or to a heat insulated pipe (Kikuchi). The Kikuchi reference is directed toward solving a problem with heat insulating pipes, by providing a foam insulation between the inner pipe and the outer wall. Kikuchi is neither related to a double walled pipeline (as Kunz) nor to a vehicle frame joint structure (as in the present application).

Therefore, it is respectfully submitted that one skilled in the art, when confronted with Kunz and Kikuchi, would not be motivated to combine these references in the manner proposed by the Examiner. As noted above, the Kunz reference is directed toward a manner of, and apparatus for, providing a joint for a double-walled pipeline system. As such, it is important and necessary for fluid to flow not only within the inner pipe, but also outside of the inner pipe, with such outer flow being contained by an outer pipe conduit. For example, sensors may be arranged in the outer pipe conduit to sense leakage or flow therein. The outer pipe conduit may also be transparent to permit an inspector to readily see such leakage or flow. In this regard, see Col. 3, lines 17-30 of Kunz. Thus, it will be apparent that in Kunz it is important to keep the outer pipe conduit open so as to be available to receive fluids that leak from the inner pipe.

Kikuchi is directed toward solving an entirely different problem – how to provide effective thermal insulation for a pipe that transports low temperature fluids. To solve these problems, Kikuchi uses a foamed insulation that is overlaid with an elastic sheet and a thin metal plate to define a laminated or multi-layered insulating structure. It is again noted that Kikuchi teaches forming such an insulating structure separate from the pipe, and then subsequently attaching the insulating structure

around the pipe. It would seem to be apparent that the Kikuchi insulating structure would not be able to convey fluids that may leak from the pipe.

Therefore, it is respectfully submitted that there is no motivation or suggestion in the art of record that would lead one skilled in the art to combine the references in the manner proposed by the Examiner. Again, keeping in mind that Kunz is directed toward a double walled pipeline system in which fluids may readily flow in the outer pipe conduit, and that Kikuchi is directed toward a manner of heat insulating a pipe, there is no reason, apart from the present invention, to combine the references. Notably, the function of Kunz (to serve as a double walled pipeline) would be impossible with the Kikuchi foamed insulation installed in the outer conduit. Accordingly, the Examiner's proposed rejection of claim 1, and claims 2-3 that depend therefrom, is invalid for hindsight, and should be withdrawn.

Claim 4 has been rejected as being unpatentable over Kunz and Kikuchi in further view of US 3,948,247 to Heilemann.

Initially it is noted that Heilemann does not resolve or correct the deficiencies of Kunz and Kikuchi, discussed hereinbefore as it relates to claim 1, from which claim 4 depends. For this reason alone, claim 4 is considered to be allowable.

Further, Heilemann is cited for teaching a device that uses two different metals. There has been no indication by the Examiner why one skilled in the art would be motivated to use two different metals in the Kunz/Kikuchi structure. There has also been no discussion as to why one skilled in the art would be motivated to use the teachings of a solar heat collector (Heilemann) to modify portions of a heat insulating pipe (Kikuchi) and portions of a double walled pipeline system (Kunz). It is submitted that there is no reason, apart from the present

application, to combine these references in the manner proposed by the Examiner.

Accordingly, claim 4 is considered to be allowable over the art of record, and notice to that effect is respectfully requested.

New claims 7-14 are directed toward further novel and non-obvious features of the present invention. Favorable consideration of these new claims is requested.

In light of the foregoing, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 18-0160, our Order No. SHM-14986.

Respectfully submitted,

RANKIN, HILL, PORTER & CLARK LLP

By /David E. Spaw/
David E. Spaw, Reg. No. 34732

4080 Erie Street
Willoughby, Ohio 44094-7836
(216) 566-9700